

The schematic diagram illustrates a vacuum furnace system. A large cylindrical chamber 100 is shown in cross-section at the bottom right. Inside the chamber, there are several components labeled 8, 9, 22, and 23. A workpiece W is positioned within the chamber. Above the chamber, a vertical assembly includes a flange 101, a gasket 102, and a central tube 11. This tube is connected to a complex network of pipes and valves. The system includes a compressed air source 120 and a vacuum source 121. The compressed air source is connected through a series of solenoid valves R1, R2, R3, R4, R5, and R6. The vacuum source is connected through valves V1 and V2. Other components include a heating element or sensor 31, a gas inlet/outlet 35, a pressure gauge or sensor 37, and a control unit 38. Various other parts are labeled with numbers such as 1, 2, 3, 10, 11, 111, 112, 113, 114, 115, 116, 117, 120, and 121.

FIG. 2

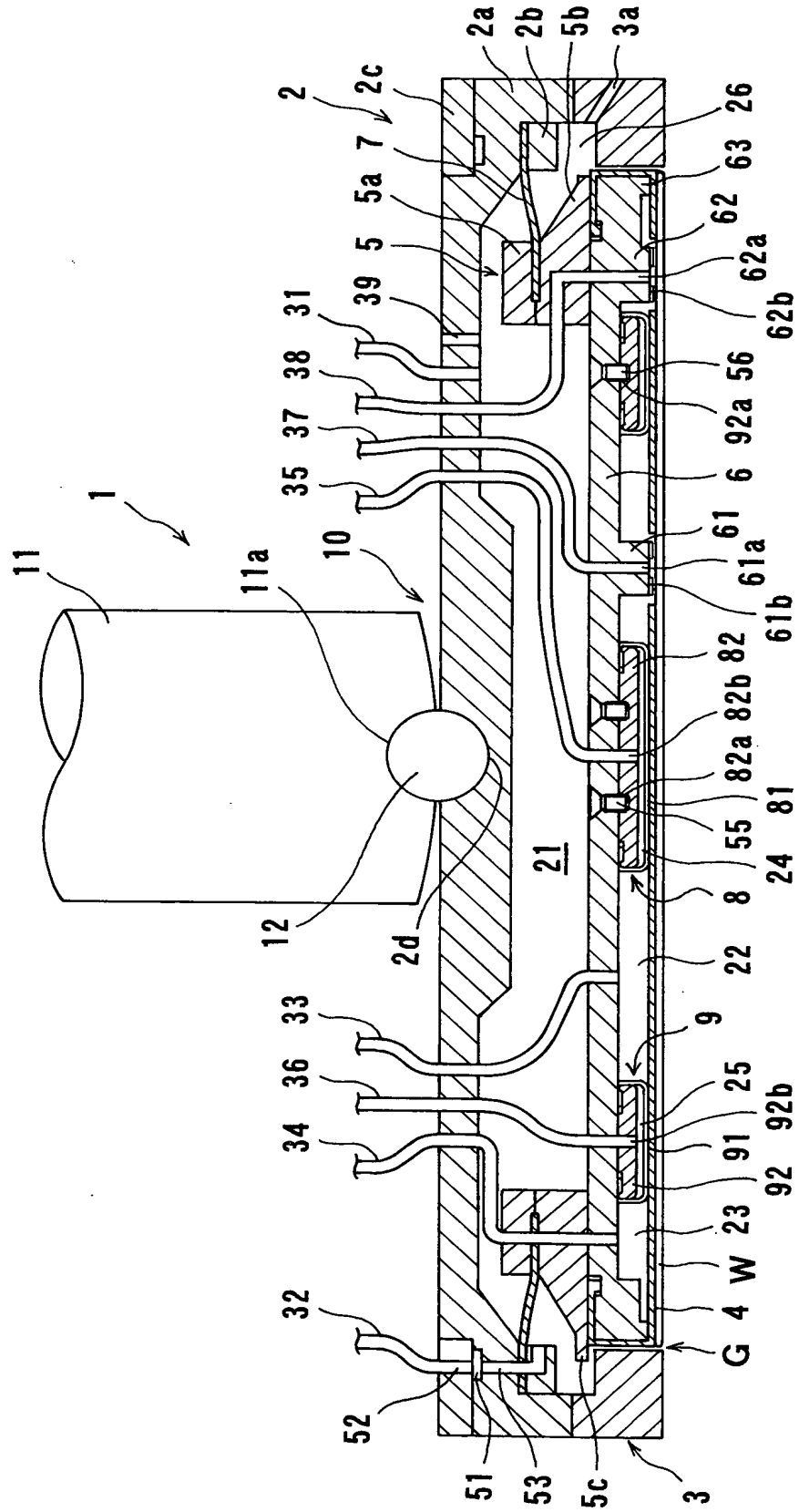


FIG. 3

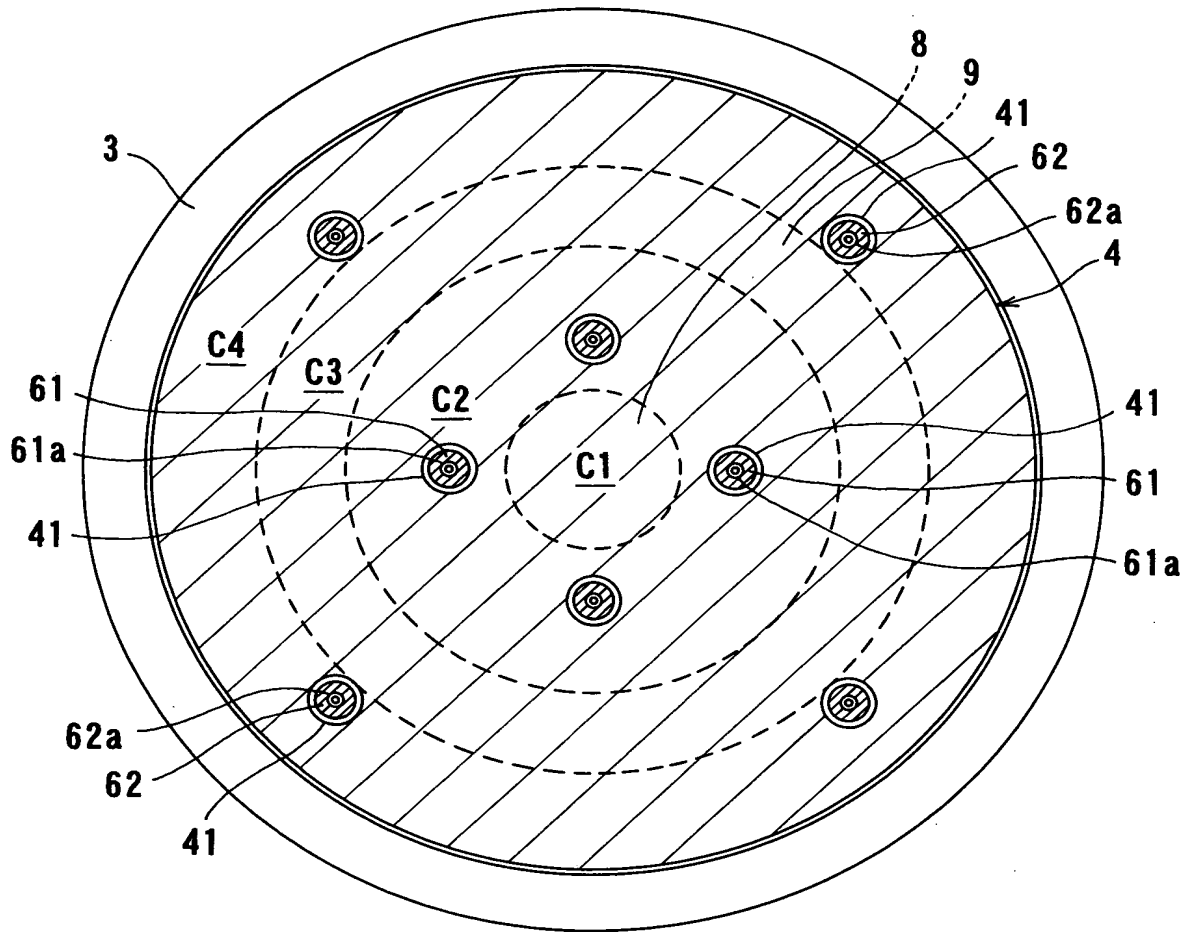


FIG. 4A

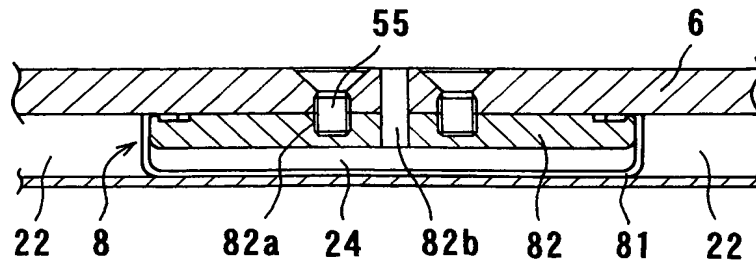


FIG. 4B

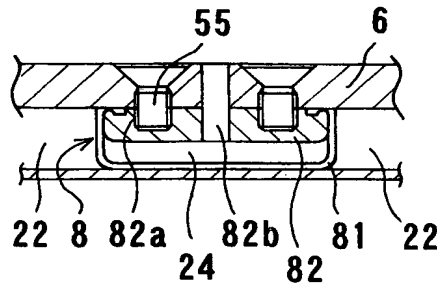


FIG. 4C

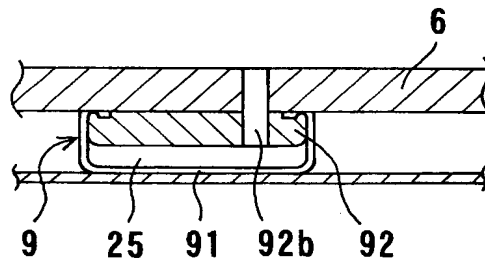


FIG. 4D

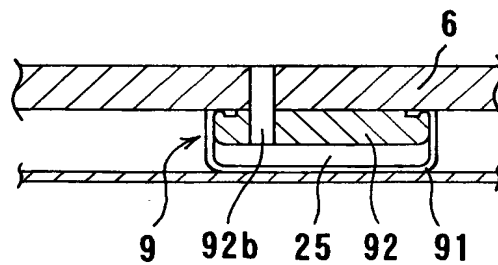


FIG. 4E

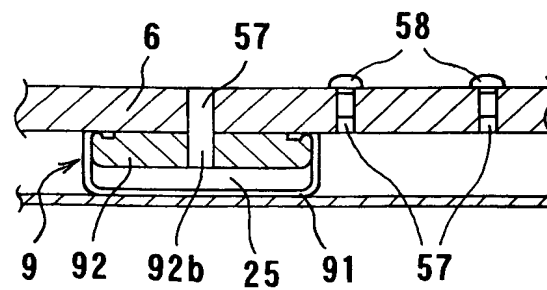


FIG. 5

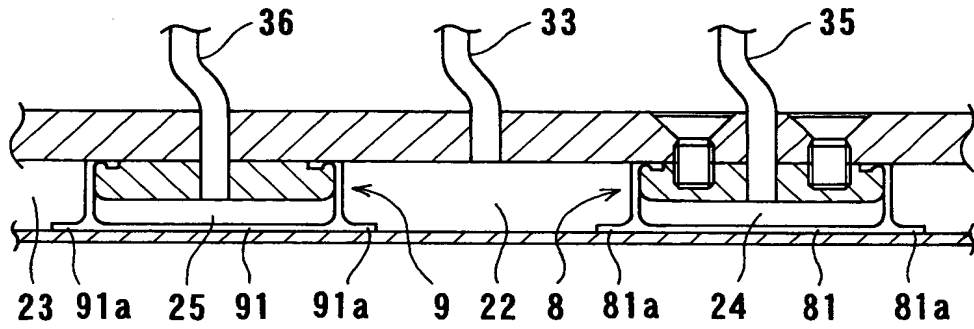


FIG. 6A

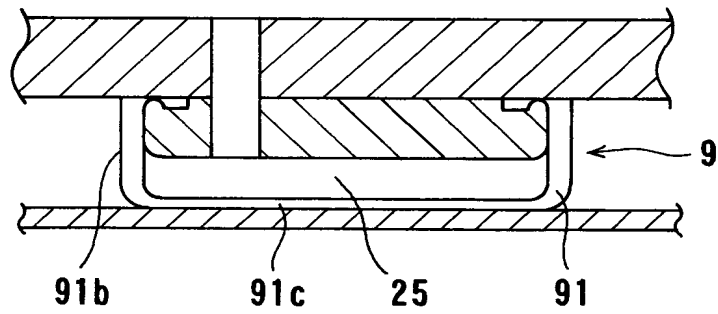


FIG. 6B

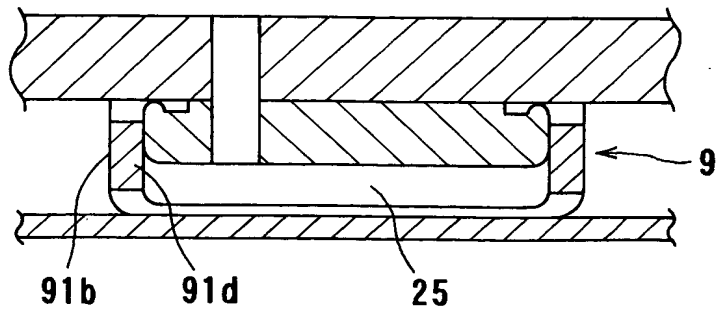
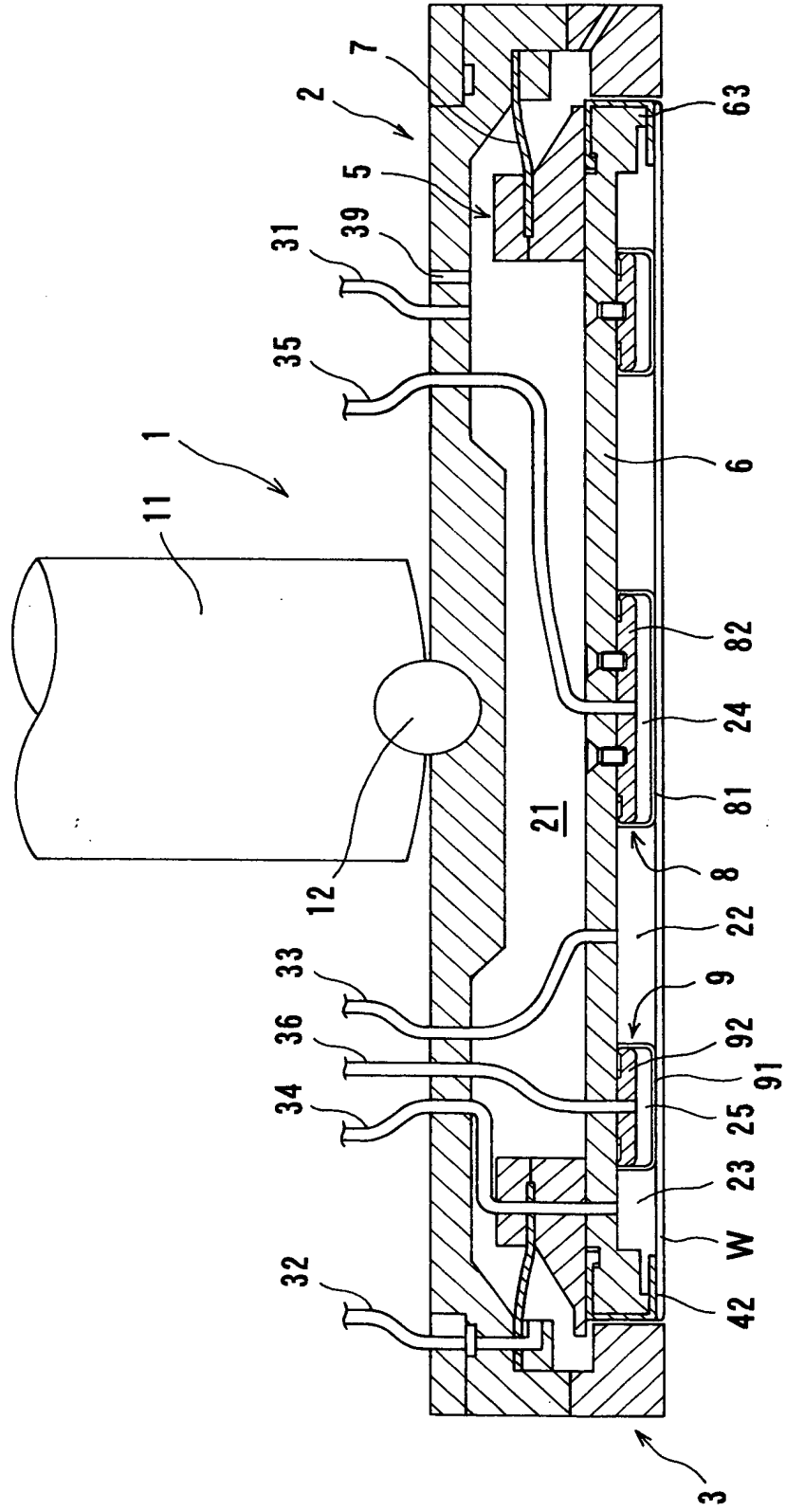
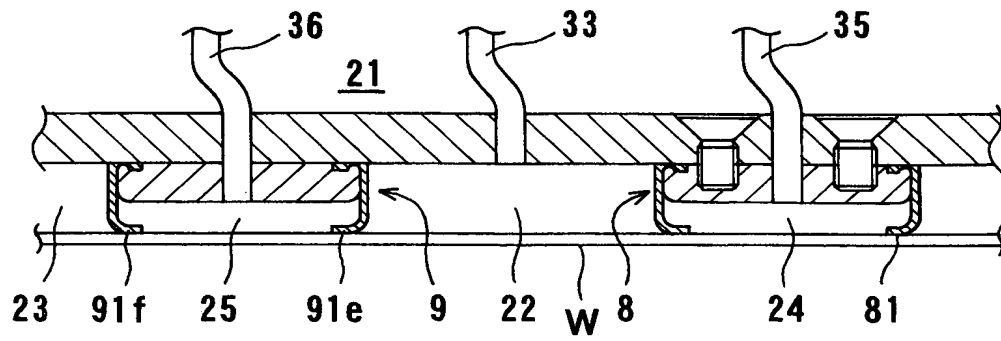


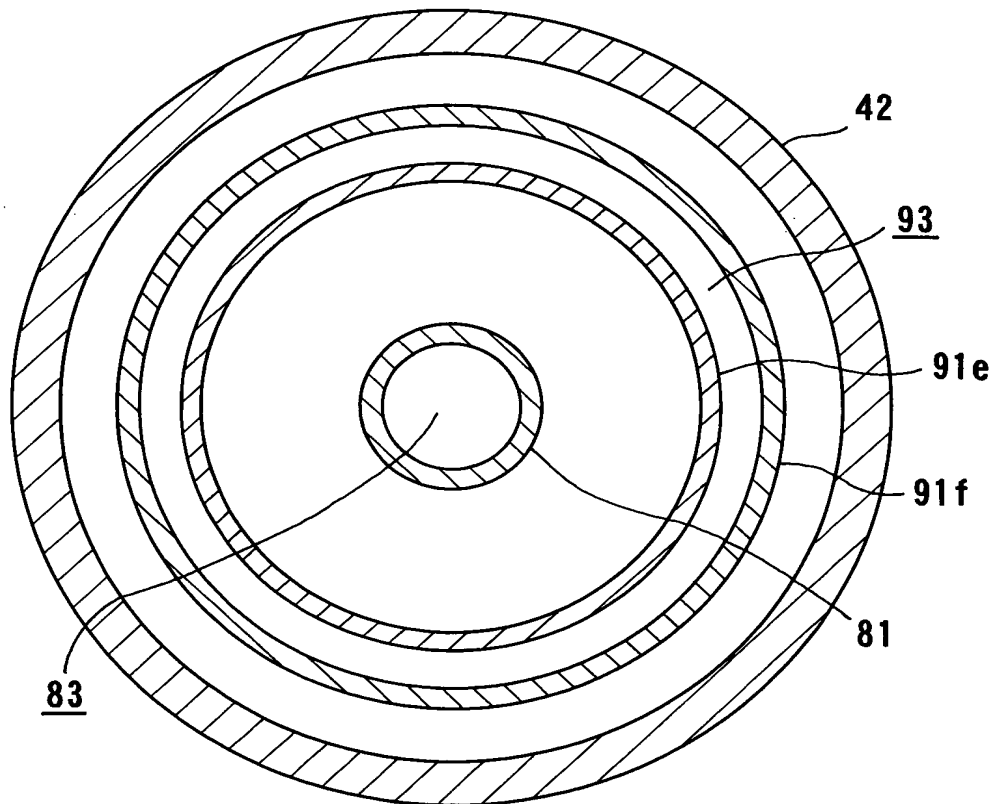
FIG. 7



F / G. 8



F / G. 9



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FIG. 10

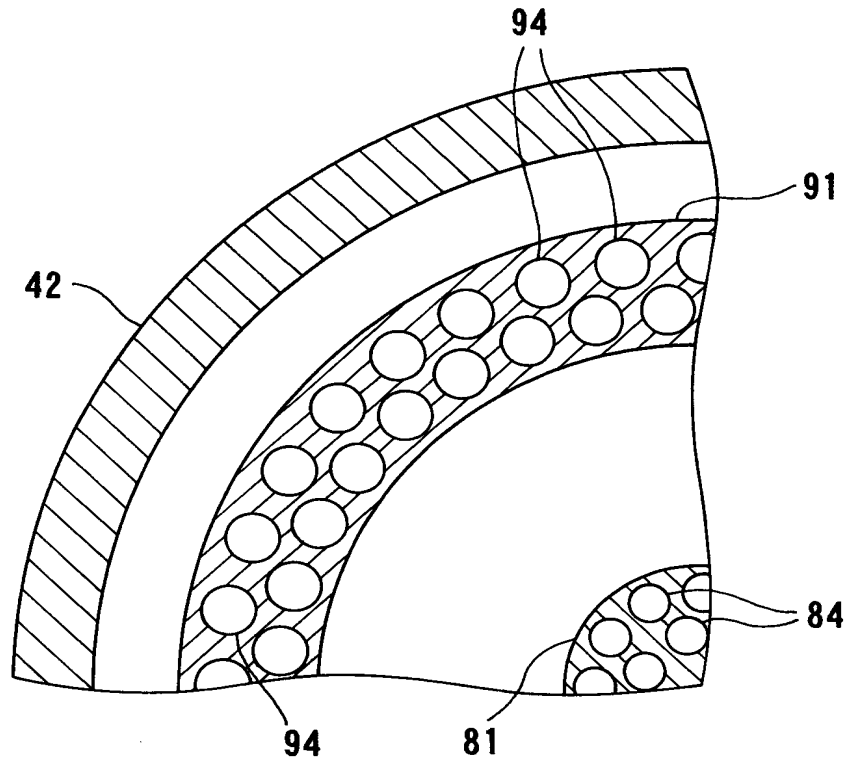
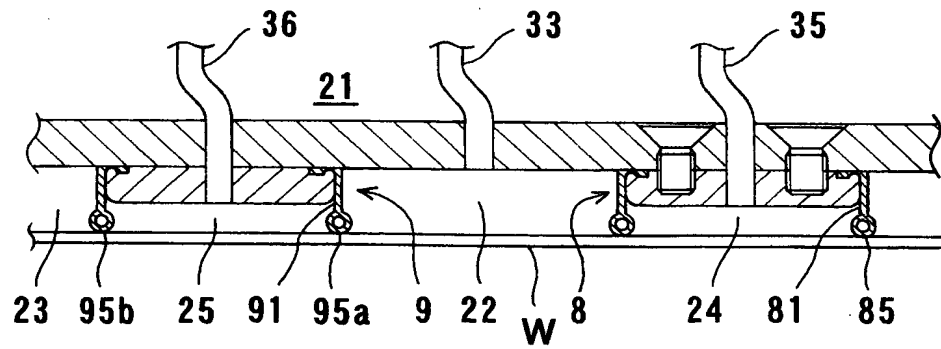


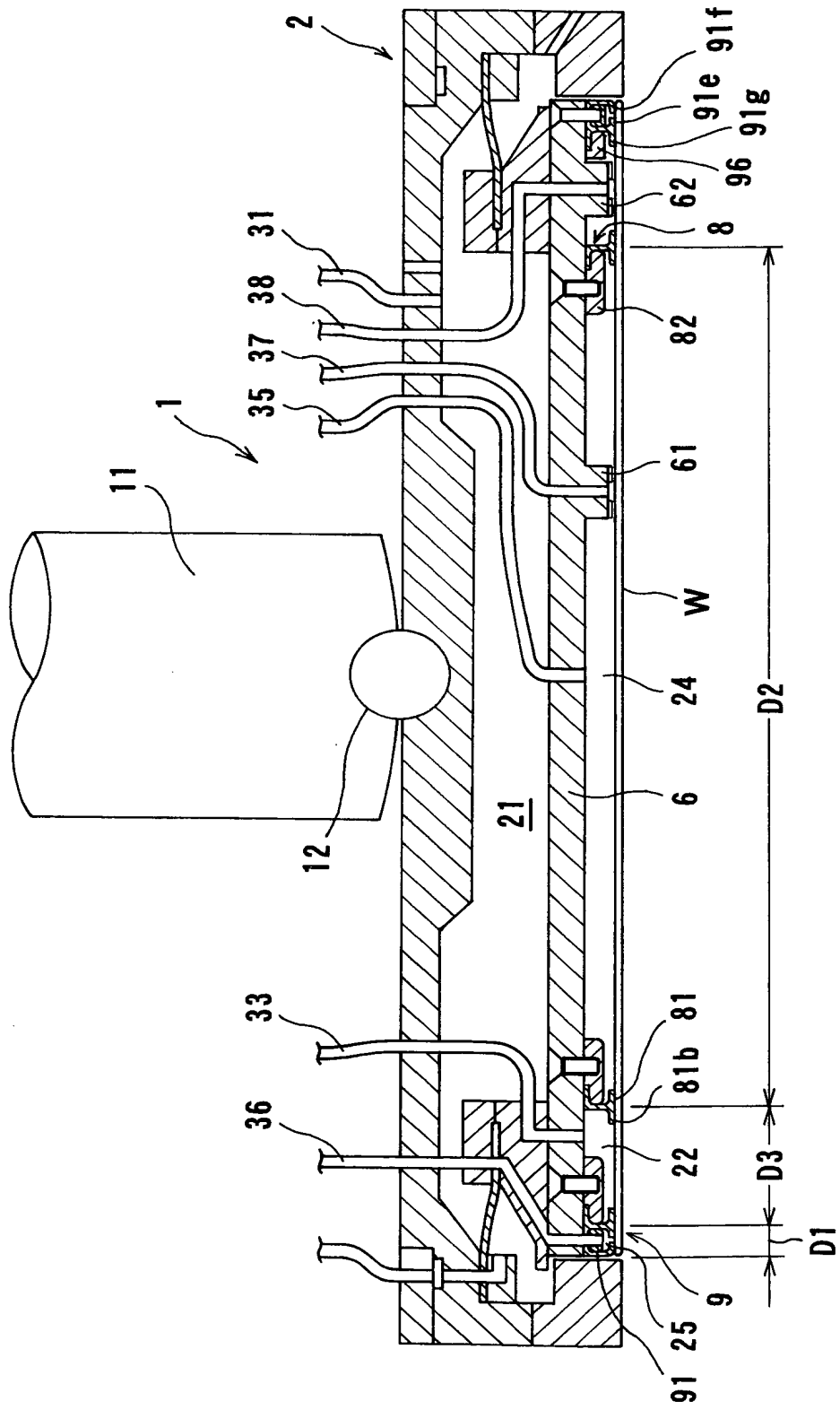
FIG. 11



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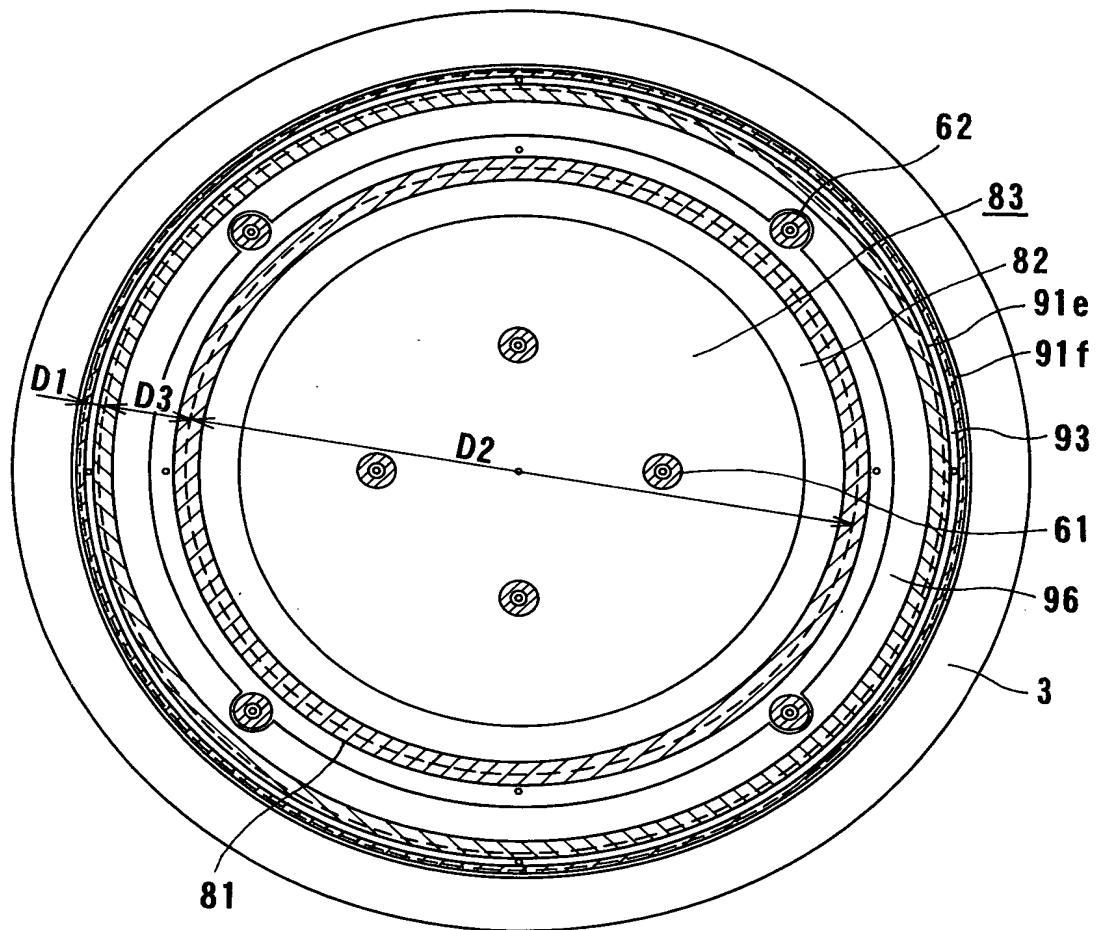
FIG. 12

FIG. 12



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FIG. 13



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FIG. 14

